What's On Tap

The California Drinking Water Program Newsletter

December 2005

Message from the Chief of the Drinking Water Program (*Retired*)

Once again, I am pleased to present the California Department of Health Services Drinking Water Program's annual statewide newsletter. By providing Internet links, information about the Drinking Water Program, and news about current and upcoming regulatory issues, we hope you'll find the newsletter a valuable resource. To meet your needs we would also like to hear from you about information that you would like us to include in future newsletters.

This newsletter also provides me with the opportunity to announce that I retired in early November 2005 after more than 33 years with the Department. Working more than three decades in a Department whose goal is to promote, protect, and preserve public health has been a very rewarding experience. Equally rewarding has been the opportunity to work with all of you in ensuring that the citizens of California are consistently provided with high quality drinking water. Although we have not always been in agreement on how to best achieve that objective, I have appreciated your willingness to work through those differences. I firmly believe that these efforts have produced outcomes that were in the best interest of the public.

There are many challenges still to be faced. California's growing population will place strains on the state's water resources. Even with increased conservation and reuse of water, lower quality sources of water will have to be used for drinking water, which will require even greater vigilance to ensure that the public is protected. In addition, there are California citizens, particularly those living in rural areas, who are served by water systems with crumbling infrastructure that are unable to meet minimum water quality requirements; conditions that should not be considered acceptable in the 21st century. These challenges will require innovative technical and economic solutions that can best be developed through a collaborative effort of state and local agencies, and the water utility industry and the public.

Thank you again for your support and cooperation over the years. I wish you all the best in your future endeavors.

In This Issue

Regulation Update

There are currently more than a dozen regulations under development by the Department of Health Services (DHS). Six of these regulations are Federal rules that DHS is required to adopt. They include:

- Stage 1 Disinfectants/Disinfection Byproducts (D/DBP) Rule
- Interim Enhanced Surface Water Treatment Rule
- Long-Term 1 Enhanced Surface Water Treatment Rule
- Public Notification Rule
- Radionuclide Rule
- Arsenic Rule (not yet in effect)

Please note that although DHS has yet to adopt these regulations, you are still required to abide by the Federal requirements.

Of those furthest along in the state adoption process, the Radionuclide Rule and the Stage 1 D/DBP Rule recently completed their second public comment period and the Public Notification Rule and Secondary MCL proposed regulation recently ended their first public comment period. A second public comment period is required if substantive changes are made as a result of public comments. A second public comment period for the Public Notification Rule is expected soon as a result of several changes. Comments received for the Secondary MCL proposed regulation are currently under review by DHS. Once the public comment period is complete, adoption is likely to follow within 4 to 5 months.

Information on the status of these regulations and other regulations under development, drafts of proposed and most future regulations, as well as current regulations and statutes are available on the DHS website: http://www.dhs.ca.gov/ps/ddwem/publications/Regulations/regulations_index.htm#Current%20Regulations%20and%20Statutes.

This webpage also provides links to other material that will help you further understand the regulatory process.

Compliance Tips

Arsenic Rule. In January 2006, the federal Arsenic Rule takes effect. Community water systems and non-transient non-community water systems will need to sample surface water sources by December 31, 2006, and groundwater sources by December 31, 2007, to assess the level of arsenic in each source. If a level exceeds 0.010 mg/L, you will be required to collect three more quarterly samples and average the four quarters' results to determine compliance.

You do not need to wait to assess your compliance status. If your source water arsenic level is near or exceeds the new federal MCL, you should consider sampling your source quarterly for arsenic, pH, sulfides, hardness, silica, phosphate, sulfate, iron, manganese, and vanadium. This data can assist you in determining your future compliance status and give you extra time to evaluate the best treatment process and design for your particular water. For small water systems, DHS is developing guidance that will be used to evaluate small water system proposals to use POU devices for arsenic MCL compliance.

More compliance tips are available through a FAQ on the DHS website: http://www.dhs.ca.gov/ps/ddwem/chemicals/arsenic/index.htm. Information to help a water system evaluate appropriate treatment technologies is available on the USEPA website: http://www.epa.gov/safewater/ars/implement.html.

Nitrate. Is your nitrate monitoring up-to-date? The table below summarizes the monitoring requirements. Please be sure to complete your source sampling before the end of the year and ask the laboratory to send the data to DHS by electronic data transfer.

Water System Type	Source Type	Routine Monitoring Frequency [(a)]
Public Water System	Groundwater	Annually
Transient-Noncommunity Water System	Surface Water	Annually
Community Water System	Surface Water	Quarterly
Nontransient-Noncommunity Water System	Surface Water	Quarterly

(a) Quarterly monitoring is required if the result is greater than or equal to 50% of the MCL. After 4 consecutive quarterly samples are less than the MCL (groundwater) or less than 50% of the MCL (surface water), quarterly monitoring may be reduced to annually with DHS approval.

Stage 1 Disinfectants/Disinfection Byproducts (D/DBP) Rule. For most water systems, the D/DBP Rule allows reduced TTHM and HAA5 monitoring if the annual average levels are $\leq$0.040 mg/L and $\leq$0.030 mg/L, respectively. If your water system meets these levels, contact your DHS District Office for more information on the qualifying criteria and what you need to do before going to reduced monitoring.

Stage 2 Disinfectants/Disinfection Byproducts (D/DBP) Rule. By the end of 2005, USEPA is expected to issue a final rule for the Stage 2 Disinfectants and Disinfection Byproducts (D/DBP) Rule. The purpose of the Stage 2 D/DBP Rule is to improve public health protection by:

- Requiring a water system to conduct an Initial Distribution System Evaluation (IDSE) to identify compliance monitoring locations with high disinfection byproduct levels for total trihalomethanes (TTHM) and five haloacetic acids (HAA5);

- Basing compliance on Locational Running Annual Averages (LRAA) instead of a system-wide RAA; and

- Establishing consecutive water system requirements.

The proposed IDSE requirement is applicable to (1) community water systems and (2) non-transient-noncommunity water systems serving at least 10,000 persons that use or deliver water that has been treated with a primary or residual disinfectant other than UV light. The water system must conduct an IDSE by performing Standard Monitoring or a System Specific Study, unless it receives 40/30 Certification or a Very Small System (VSS) Waiver from the State. An IDSE Report must be submitted to the State by the water system, unless it receives a VSS Waiver. The report will include recommendations on where and during what months(s) future TTHM and HAA5 samples should be conducted for compliance monitoring purposes.

The proposed Stage 2 D/DBP Rule also requires water systems to develop a monitoring plan (or update the existing plan); comply with routine, reduced, and increased TTHM and HAA5 monitoring; take action as a result of a significant excursion; report to the State; maintain records; and meet other requirements. Water systems are advised to refer to the requirements contained in the final rule when it is adopted. Additional information on the federal Stage 2 D/DBP Rule is available at http://www.epa.gov/safewater/stage2/index.html.

Fluoridation Cost Estimate Updates – It's the Law

A new state law became effective on January 1, 2005, that requires public water systems with 10,000 or more service connections to provide DHS with updated capital cost estimates for the installation of fluoridation treatment by July 1, 2006.

In July 1996, public water systems with 10,000 or more service connections were required by state law to provide fluoridation capital cost estimates to DHS. Subsequently, DHS adopted regulations that included a schedule that ranked the public water systems by cost per service connection based upon the cost estimates submitted at that time.

For those public water systems that previously submitted fluoridation cost estimates, DHS will be providing guidance regarding acceptable ways to update those cost estimates.

Public water systems required to submit fluoridation cost estimates for the first time should contact their DHS District Office for guidance on preparing an acceptable cost estimate.

Fluoridation Facts

- *More than half of the US population lives in communities served by fluoridated water.*
- *A 15-year landmark study in Grand Rapids, Michigan found that children that consumed fluoridated water from birth had 50 – 63% less tooth decay than children who had been examined during the original baseline survey.*
- *Every $1 spent on fluoridation saves $120 in dental treatment costs.*

More fluoridation information is available at:
DHS-DWP:
http://www.dhs.ca.gov/ps/ddwem/Fluoridation/default.htm

DHS-Office of Oral Health:
http://www.dhs.ca.gov/ps/cdic/cdcb/Medicine/OralHealth/Fluoride/index.htm

Centers for Disease Control:
http://www.cdc.gov/oralhealth/waterfluoridation/index.htm

Continuing Education for Water Operators

Continuing education is now a requirement for renewing a drinking water treatment or water distribution certificate in California. Most operators are aware that they can get continuing education by attending an industry conference that offers contact hours, but there are several other ways contact hours can be obtained and several organizations that offer acceptable training.

Seminars or Workshops. Attending a seminar on a drinking water treatment or distribution topic is the most common way operators obtain continuing education contact hours. Contact a provider for a training schedule to find out when the next seminar or workshop will be in your area. Some seminar and workshop providers are as follows:

California-Nevada Section of the American Water Works Association
Phone: (909) 481-4688,
Website: http://www.ca-nv-awwa.org/

California Rural Water Association
Phone: (916) 553-4900
Website: http://www.calruralwater.org/.

Harry Brown Training
737 Gonzales Drive
San Francisco, CA 94132
Phone: (415) 584-7024
Email: hbrown5477@aol.com

OCTINC (Operator Certification Training Inc.)
Phone: 1-(800) 886-9717
Website: www.octinc.com

Rural Community Assistance Corporation (often providing one and two day seminars)
Phone: (916) 447-9832, ext. 121
Website: http://www.rcac.org/

Specialized Training Courses. Specialized training courses are offered in a classroom setting or as a correspondence course. College or university courses may also be used for contact hour credit, if the course was taken within the renewal period and is specific to drinking water treatment and distribution. If an operator takes a Water Treatment or Water Distribution course to meet the exam requirements, the course can also be used as contact hours to renew a certificate. A list of colleges that offer these courses can be found at the DHS website: http://www.dhs.ca.gov/ps/ddwem/technical/certification/opcert.HTML

Internet Course Providers. These companies provide continuing education contact hours that can be taken anywhere an operator has a computer and an Internet connection. Some of these providers offer both drinking water and wastewater courses, but only the drinking water courses are acceptable to renew your drinking water certificate. Some Internet course providers are as follows:

www.360water.com
www.awwa.org/learnonline
www.ceupian.com
www.RedVector.com
www.owp.csus.edu

Computer Based Courses. Computer based training courses usually come in the form of a CD one may purchase from a training provider. Contact hours are earned by reading the training material on the CD and answering questions as you go along. Contact hours are then issued at the end of the course by either printing out a certificate of completion or contacting the training provider. Several computer based training course related contacts are:

Micar, Inc,
P.O. Box 5897,
Aloha, OR 97006-5897,
Phone: (800)-318-4739
Website: www.h2o-ed.com

Montana Water Center
http://water.montana.edu/training/gwb/orderCD.htm

tlch$_2$o.com
http://www.tlch2o.com/

Video Training or Video Teleconferencing. Continuing education contact hours may be obtained by viewing training videos if these steps are followed;

1. Obtain a video that is at least one hour long and covers a topic that is specific to drinking water treatment or distribution. Two shorter videos can also count if they add up to at least one hour and are given during the same contact hour;
2. Set up a sign-in/sign-out sheet for people to verify their attendance;
3. Show the video;
4. Make sure people sign out at the end of the presentation;
5. Keep a folder that contains the sign-in/sign-out sheet, a short description of the video content, and the date the video was shown; and
6. Issue the following information to each operator that viewed the video:
    a. Name of the video;
    b. Date the video was shown;
    c. Length in hours of the video (contact hours); and
    d. Name and telephone number of the continuing education provider. This can be anyone who has access to the file.

When operators send in their contact hour information, we will verify the information by calling the continuing education provider. If we are unable to verify the information the contact hours will not count.

Proposition 50

Proposition 50, the Water Security, Clean Drinking Water, Coastal and Beach Protection Act of 2002, is a $3.44 billon bond measure approved by California voters in 2002. Prop 50 was developed to address water security, water quality, and water quantity issues. Approximately $430 million from Prop 50 is available to public water systems through grant programs administered by the Department of Health Services (DHS).

Prop 50 "gives priority to projects that reduce public and environmental exposure to contaminants that pose the most significant health risks **and** that will bring water systems into compliance with safe drinking water standards." Prop 50 encourages integrated, multiple-benefit projects, giving preference to disadvantaged communities, while encouraging improvements to local and regional water supplies. The criteria for the various programs were based on the language in Prop 50.

The Prop 50 funds administered by DHS are based on Chapters 3, 4, and 6 and are divided into nine narrowly defined grant programs shown in the table below:

DHS conducted the first round of pre-applications in Fall 2004. Over 900 pre-applications were submitted requesting over $875 million. Since then, DHS has reviewed and ranked the projects for seven of the grant programs and has created draft project priority lists. The reviews for two research grant programs (Chapters 4a.2 and 6b) are still in progress. DHS is preparing to invite full funding applications from the highest-ranking projects in the seven grant programs based on the project priority lists.

DHS is currently accepting a second round of pre-applications. **Pre-applications are due by January 31, 2006.** DHS recently sent a letter to all public water systems announcing the opening of the pre-application period and the dates for two public workshops. The first workshop was held in December 2005 in Sacramento. The second public workshop will be held Wednesday, January 11, 2006 in Los Angeles from 10 AM to Noon. The workshop location will be held at Union Station, 700 N. Alameda Street at the Metropolitan Water District Offices.

A computer program is used to prepare pre-applications, followed by submittal to DHS via e-mail. Applicants will need access to a computer and the Internet. Additional information is available at the DHS website: http://www.dhs.ca.gov/ps/ddwem/Prop50/default.htm.

A summary of the projects and funding for each grant program is shown below.

Chapter	Title	Approximate Funding Available ** $ (million)	Number and Total Cost of Eligible Pre-Applications Received		Number of Projects to be Invited in 2005 and Amount of Prop 50 Funds	
			#	$ (million)	#	$ (million)
3	Water Security	$ 50	296	$191.5	10	$ 31.3
4a1	Small Community Water Systems	$ 70 (total for these five funding chapters)	245	$170.4	11	$ 6.4
4a2	Demonstration Projects for Contaminant Removal		13	$ 8.6		
4a3	Water Quality Monitoring		19	$ 4.5	6	$ 1.2
4a4	Drinking Water Source Protection		28	$ 19.9	2	$ 1.7
4a5	Disinfection Byproduct Treatment		16	$ 10.6	4	$ 1.3
4b	Southern California	$260	50	$244	10	$ 44.8
6b	Demonstration Projects for Contaminant Removal	$ 25	17	$ 11.8		
6c	UV and Ozone Disinfection	$ 25	9	$ 11.8	4	$ 3.5
Total		$430	693	$673	47	$ 90.1

** Before subtracting expenses for bond costs and administration

Water Security Update

Every community water system serving greater than 3,300 people should have completed its security vulnerability assessment and updated its Emergency Response Plans (ERP) to include terrorist and contamination events. A copy of the updated ERP should be sent to your District Office.

To assist California drinking water utilities in the update, the Department of Health Services (DHS), Drinking Water Program (DWP) developed ERP guidelines and an ERP template, both of which are available at the DHS website: http://www.dhs.ca.gov/ps/ddwem/Homeland/default.htm. More information on the Bioterrorism Act requirements for drinking water systems is available on the USEPA website: http://cfpub.epa.gov/safewater/watersecurity/index.cfm

Since you have completed your Vulnerability Assessment and Emergency Response Plan, you should be focusing on training your staff and exercising your plan through tabletop exercises and drills. During 2006, DWP will provide training to assist water systems in developing and facilitating the exercises. A **free** two-day workshop on Tabletop Exercise Design will be provided throughout the state. Please refer to the DWP water security website throughout the year for information.

We are still working on the roll out of California Health Alert Network (CAHAN) to public water systems within the next year. CAHAN is a secure portal where immediate notification of hospitals, doctors, county health, and state health departments can be implemented. The DWP is in the process of registering 2,000 public water systems so that immediate notification of water system personnel can be broadcasted if a water contamination event or natural disaster occurs or is threatened. In addition, information will be provided on the secure website that may be accessed by water systems for water security information.

The DWP and the DHS' Sanitation and Radiation Laboratory (SRL) have prepared 75 emergency water quality-sampling kits that will be used if a water contamination event occurs. Kits are stored and maintained at the DWP District Offices. **If a credible event occurs, the water system should call their DWP District Office and request a kit to be sent to the contamination event and laboratory assistance for the analysis.** The DWP will provide the kit and authorize the sample to be sent to the SRL laboratory. If you need assistance determining if the event is credible, please contact your District Office or DWP Homeland Security Staff. If you cannot reach them, please contact the California Office of Emergency Services hotline (1-800-852-7550) and request the DHS Drinking Water Duty Officer who will make contact with management staff to assist you.

Work has just been initiated in collaboration with DHS, Emergency Preparedness Office on a *Risk Communication Guidance Tool Kit for Water Utilities*. A work group has been formed with representatives from a variety of water systems, Cal/Nevada AWWA, USEPA, and Cal/Rural Water. The workgroup is currently editing and modifying the *Risk Communication Guidance Tool Kit* that was distributed to local public health agencies last year. The modifications are necessary to encompass specific water utility related situations and scenarios. It is anticipated that the first draft and initial review of the Tool Kit will occur in Spring 2006.

DHS and RWQCB – Which Applies to You?

Those working in the water industry, related to supplying drinking water or discharging waste, have many responsibilities. The foundation of these responsibilities has been set by the Safe Drinking Water Act (SDWA) and Clean Water Act (CWA). So, as a public water system, what applies to you, DHS or RWQCB requirements? The answer is most likely, both.

There are many laws and regulations that need to be followed by people working in the water industry. The two primary laws related to the water industry are the SDWA and the CWA. In California, the implementation and enforcement of the Federal requirements has been delegated to the State. The State must adopt regulations that are at least as stringent as the Federal regulations. In California:

- The Department of Health Services (DHS) enforces and implements the SDWA. DHS may delegate, with oversight, a Local Primacy Agency (LPA) to enforce and implement the SDWA.

- The State Water Resources Control Board (SWRCB) and the local Regional Water Quality Control Boards (RWQCB) enforce and implement the CWA.

The goal of the SDWA is to protect public health by regulating the Nation's public drinking water supply. One of the primary methods used to accomplish this goal is to issue drinking water permits to public water systems. Before distributing drinking water for public consumption, a water system must obtain a drinking water permit. The drinking water permit has site specific monitoring and reporting requirements to ensure that the drinking water treatment and distribution systems comply with the State's requirements, therefore ensuring compliance with the SDWA requirements.

The SDWA also sets minimum primary drinking water standards for drinking water quality known as maximum contaminant levels (MCLs) and sets minimum standards and requirements for drinking water system treatment and distribution operators.

DHS develops and enforces laws and regulations ensuring that the minimum standards set forth in the SDWA are met. DHS regulates public water systems; oversees water recycling projects; permits water treatment devices; certifies drinking water treatment and distribution operators; supports and promotes water system security; provides support for small water systems and for improving technical, managerial, and financial (TMF) capacity.

The goal of the CWA is to restore and maintain the chemical, physical, and biological integrity of the Nation's waters. The CWA protects water for our municipal, industrial, agricultural, and environmental uses. One of the primary methods used to accomplish this goal is the National Pollutant Discharge Elimination (NPDES) permitting process. The NPDES process regulates the discharges of any waste to waters of the U.S. Typically wastewater treatment plants, power plants, industrial facilities, and municipalities apply for and receive NPDES permits. The NPDES permits may be issued for point source discharges or for storm water discharges. The NPDES permits specify the quality of the water being discharged and may contain provisions for the treatment facilities being regulated. The NPDES permits require the facilities to treat or remove pollutants in their discharges. The discharges are also monitored for compliance with the water quality requirements.

The Regional Boards may also issue Waste Discharge Requirement (WDR) permits for waste discharges being discharged to land. The WDR permits are typically issued to land fills, sewage disposal to land, and recycled water discharges. The WDR permits also require treatment or processes to control or eliminate the discharges of pollutants.

More SDWA information is available at:
USEPA website: http://www.epa.gov/safewater
DHS website: http://www.dhs.ca.gov/ps/ddwem

More CWA information is available at:
USEPA website: http://www.epa.gov/owm
SWRCB website: http://www.waterboards.ca.gov/

Environmental Review for Water Supply Permits

The Department of Health Services (DHS) Environmental Review Unit (ERU) ensures that all new water supply permits and permit amendments comply with the California Environmental Quality Act (CEQA). Although there are many activities that trigger a water supply permit amendment, the only activities that require an environmental review are new water supply permits, new wells, some new treatment on existing wells, and some changes in treatment technology. If water systems are planning to drill a new well, build a new treatment plant, or add any treatment, they should let the DHS District office know and, if there is no CEQA document available for review, they should allow for a 30-day review period for a negative declaration and a 45-day review period if an EIR is necessary.

DHS as Responsible Agency. Typically, if new wells are part of a housing or commercial development, another local or state agency has or will comment on the project. Local city and county planning departments review most new developments and will have "discretionary" authority over the project. The Planning, Water, Public Works, or Resources department takes the role as the CEQA "lead agency" and often requires the developer to contact all state and federal agencies through a conditional use permit. They may even require a CEQA document be circulated for review or will determine if the project is exempt. The filing of all Notices and the circulation of the CEQA document are often done at the County Clerk.

In this case, DHS, is known as the "responsible agency" under CEQA and should be notified when a developer plans to drill a new well to serve the development. As a state "responsible agency", the CEQA document must be circulated through the state clearinghouse for DHS review. The state clearinghouse assigns a number known as a state clearinghouse number (SCH #) to the document and that number is used to record and track any Notices and comments sent to the clearinghouse.

As a "responsible agency", DHS is required to make findings as part of the permit amendment process and file a Notice of Determination at the state clearinghouse using the SCH # when the permit is issued. ERU assists the local District Office by writing the permit findings and the Notice of Determination for the District Engineer to sign.

DHS as Lead Agency. The private, mutual or CPUC regulated system, because they are not public entities, are required to seek out a public agency to act as "lead agency" for CEQA. These utilities may request that DHS act as "lead agency". For DHS to determine the proper environmental review, the private, mutual or CPUC regulated agencies fill out the Environmental Information Form, which is available at the DHS website: http://www.dhs.ca.gov/ps/ddwem/technical/environmentalreview/EnvInfoForm.pdf.

What is CEQA?

A statute that requires state and local agencies to identify the significant environmental impacts of their actions and to avoid or mitigate those impacts, if feasible.

Desalination

Desalination is not a new concept to California. For over a decade, California has issued domestic water supply permits to desalination facilities using brackish groundwater (old inland seas), as well as those using seawater (open ocean intakes and beach wells). While some current desalination operations are planning to expand, none of the current desalination facilities have approached the capacity of recent proposals.

Based on discussions within the Department of Health Services (DHS), it appears that the general philosophy of regulating desalination facilities will be similar to that of water treatment plants. Intakes that draw from surface sources (open ocean, bays, estuaries, etc.) will be subject to the appropriate provisions of the Surface Water Treatment Rule (Watershed Sanitary Survey, Source Water Assessment, treatment requirements, etc.). Desalination facilities drawing from a source not under the direct influence of surface water will be evaluated as groundwater.

There are unique water quality issues that arise from ocean desalination, such as biological toxins from "red tide" events, paralytic shellfish poison blooms, or the identification of source water protection areas. To date, DHS has not developed specific guidelines for addressing these issues. As unresolved issues arise, they will be addressed using the best information and decision-making tools at our disposal.

Because of these unknowns, DHS is working with the National Water Research Institute and several California utilities to develop a set of desalination guidelines. The objectives for the guideline are being developed and will be further refined at a workshop. More details will be provided as they become available.

Desalination

is the process of removing salt, usually from seawater, to make it drinkable.

Alternative Filtration Technology List

The table that follows provides an updated list of accepted alternative filtration technologies. Future updates will be posted on the DHS website. The term "accepted" is used because these technologies have not been certified or approved by the Department of Health Services (DHS). The alternative filtration technologies gain "approval" on a site-by-site basis as part of the domestic water supply permitting process. When a public water system is issued a domestic water supply permit that includes an alternative filtration technology, the alternative filtration technology is considered "approved" for that site.

After one year of operation, a report on the problems (fiber breakage, MIT failures, etc.) is prepared for DHS by the water system. The report is submitted to the local DHS district office (electronic file format preferred; Microsoft Word or Adobe Acrobat PDF). The information is then used to for state-wide evaluation of alternative filtration technologies.

It is recommended that water systems using an alternative filtration technology from the list conduct pilot studies to ensure operation and maintenance costs associated with the proper operation of the alternative technology are accurate. This will decrease the probability of the selection of an inappropriate technology as a result of a decision based on inaccurate operation and maintenance data.

List of Accepted Alternative Filtration Technologies (September 2005)						
Manufacturer	Model /Product Designation	Pathogen log_{10} Removal Credit			Flow, Flux, or Filter Loading[(a)]	TMP (psi)
		Virus	Giardia	Cryptosporidium		
Microfiltration						
Pall	USV 6203	0.5	4	4	203.7 (120)	43.5
	USV 5203	0.5	4	4	203.7 (120)	43.5
	USV 620A	0.5	4	4	203.7 (120)	43.5
US Filter/Memcor	Polypropylene	0.5	4	4	110 (66.9)	15
	Polypropylene	0	4	4	160 (93.6)	17
	PVdF	0.5	4	4	85 (50)	29
	PVdF (Vanilla)	1.5	4	4	88 (52)	12
Ultrafiltration						
Aquasource	Advent	4	4	4	136 (80)	29
Hydranautics	HYDRAcap	4	4	4	119 (69.3)	18
Inge	Dizzer	3.5	4	4	156 (92)	29
Koch	PMPW	4	4	4	173 (102)	35
Norit/X-Flow	S225 UF	4	4	4	127.3 (75)	31
WestTech Polymem	UF 120S2	1.5	4	4	45 (27)	21
Zenon	500 series (PVDF-UF)	2	4	4	85 (49.8)	24 (in Hg)
	1000 series	3.5	4	4	51 (30)	10 (vac)
	1000 series	3.5	4	4	93.4 (55)	12 (vac)
Nanofiltration						
Desal	DK5	2	3			70-400[(b)]
Contact Clarification						
Infilco Degremont	Advent Package WTP	2/1	2.5/2		Conventional filtration / direct filtration	
Microfloc	Trident	2/1	2.5/2		Conventional filtration / direct filtration	
Pacific Keystone	KEY-PAC AC	1	2		Direct filtration	
Roberts Filter Co.	Pacer II	2/1	2.5/2		Conventional filtration / direct filtration	
Pata Engineering	PV	1	2		3 gpm/ft^2	
Culligan	Multitech	1	2		Direct filtration only	
Pressure filters						
EPD Wearnes (USA) Inc.	Hi Rate	1	2	2	Up to 6 NTU; 12 gm/ft^2	
Serck Baker		1	2	2	Up to 20 NTU; 5 gm/ft^2 Up to 9 NTU; 12 gpm/ft^2	
Bag and Cartridge						
USFilter	ELB 921	0	2		10 gpm/bag	10 psi
LaPointe Ind (Strainrite)	Aqua-Rite Potable Water Filtration System Bag Filter Model HPM97-CC-2SS	0	2	1.5	20 gpm	16 psid
	HPM99-CC-2-SR prefilter HPM99-CCX-2-SR; both in an AQ2-2 housing	0	3	3	20 gpm	25 psid
Rosedale	GD-PO-523-2 GLR-PO-82502	0	2	1		10
	PS-520 PP-241 GLR-PO-825-2	0	2	2	13 gpm	ΔP=20 psi (PS-520 PP-241); ΔP=2.5 psi (GLR-PO-825-2)

(a) For microfiltration, ultrafiltration, and nanofiltration the maximum fluxes are used, Lph/m^2 (gfd) units.
(b) Typical operating pressure.

Coming Soon…New Backflow Prevention Assembly Approval List

In response to comments and requests from drinking water program stakeholders, the Department of Health Services (DHS) will publish a new, updated backflow prevention assembly approval list. The new list will be comprehensive and identify all of the double check valve and reduced pressure principle backflow prevention assembly models and sizes approved in the State of California for installation as service isolation.

State regulations require that all backflow prevention assemblies installed for service isolation pass laboratory and field evaluation tests conducted by a testing organization that is recognized by DHS as competent to perform such tests.

The DHS' updated list will include only those backflow prevention assemblies that have passed the testing conducted by the University of Southern California Foundation for Cross-Connection Control and Hydraulic Research. The planned date for publication of the new backflow prevention assembly approval list is January 2006 and it will be posted on the DHS website.

Until the new list is provided, backflow prevention assemblies tested and approved by University of Southern California Foundation for Cross-Connection Control and Hydraulic Research are considered acceptable by DHS for installation as service isolation. Verification of appropriate testing and approval should be obtained prior to installation of any backflow prevention assembly.

Drinking Water Treatment and Research Fund

The Drinking Water Treatment and Research Fund (DWTRF) was created under the provisions of Senate Bill (SB) 2198 (Chapter 997, Statutes of 1998) and re-established under Assembly Bill (AB) 2481 (Chapter 999, Statutes of 2002) for the purpose of providing financial assistance to public water systems with drinking water supplies contaminated by gasoline oxygenates such as methyl tertiary butyl ether (MTBE), ethanol, or other oxygenates.

Water quality monitoring data collected in the late 1990s showed major drinking water sources in California significantly impacted by MTBE. The main sources of MTBE contamination have been identified as gasoline releases from leaking underground storage tanks, pipelines, and dispensing stations.

The Department of Health Services (DHS) is authorized under the statutes to expend monies in the DWTRF to public water systems for:

1. The incremental costs of treating groundwater and surface water used for drinking water purposes that has been contaminated by an oxygenate at concentrations exceeding the drinking water standard;
2. The costs of investigating the possible source of contamination when an oxygenate is detected in groundwater supplies used by a public water system for drinking water purposes;
3. The incremental costs of acquiring alternate drinking water supplies to replace drinking water supplies that have been contaminated by an oxygenate at concentrations that exceed a drinking water standard; and
4. The incremental costs of acquiring an alternate drinking water supply where DHS has determined that a drinking water source would become contaminated by an oxygenate at a concentration that exceeds a drinking water standard if the public water system continues to use the drinking water source.

DHS may also expend monies to conduct research for the development of technologies for the removal of oxygenates from drinking water and strategies to protect drinking water sources from contamination by oxygenates. Additional DWTRF information is available at the DHS website: http://www.dhs.ca.gov/ps/ddwem/DWTRF/INDEX.HTM.

DWP Office Move

On August 26, 2005, the staff of the Berkeley DWP moved to their new office at the Richmond Laboratory Campus. The mailing address and telephone numbers are shown below.

Department of Health Services
Drinking Water Program
850 Marina Bay Parkway
Building P, 2nd Floor
Richmond, CA 94804-6403

(510) 620-3474 (Main Office)
(510) 620-3455 (Fax)

Driving Instructions: www.mapquest.com

If you need to visit any DWP staff at the Richmond Campus, please be sure to arrange for an appointment in advance. All visitors must have an appointment and be on a visitor's list for security to admit them.

An updated statewide map of local District Offices, office locations, and contact information and additional information about our organization structure and program activities are available at the DHS website: http://www.dhs.ca.gov/ps/ddwem/technical/dwp/dwpindex.htm.

Drinking Water Program	
Field Operations Branch	***Technical Programs Branch***
Northern California Region I – Klamath, Lassen, Sacramento, and Valley District Offices Region II – Mendocino, Sonoma, San Francisco, Santa Clara, and Monterey District Offices *Southern California* Region III – Merced, Stockton, Visalia, and Tehachapi District Offices Region IV – Central, Hollywood, Metropolitan, and Santa Barbara District Offices Region V – Riverside, San Bernardino, San Diego, and Santa Ana District Offices	*Technical Operations Section* Operator Certification, Water Treatment Device Certification, Standards & Technology, Recycled Water, Policy Development, and Treatment Technology Units *State Revolving Fund and Small Water Systems Section* Safe Drinking Water State Revolving Fund, Environmental Review, Small Water System, Technical Assistance, and Proposition 50 Units *Monitoring and Evaluation Unit*

Drinking Water Puzzle

Instructions: Fill in the answers to the clues in the corresponding boxes. If done correctly, the letters in the shaded boxes will unscramble to make up the final answer to this issue's puzzle.

It is formed by the reaction of aqueous chlorine with ammonia.											
This ion is added to water to prevent tooth decay.											
A phenomenon by which molecules in a fluid phase are attracted to a solid surface and held there by physical or weak chemical bonds.											
A new federal MCL of 10 ug/L becomes effective January 23, 2006 for this chemical.											
A disinfection byproduct, usually of ozonation, having an MCL of 0.010 mg/L.											
FINAL ANSWER!											

Final Answer Hint: It is rocketing its way toward a state MCL.

Useful Links

You can find further information regarding the above at the following websites:

- Department of Health Services: www.dhs.ca.gov/ps/ddwem/default.htm
- Environmental Protection Agency: www.epa.gov/safewater
- California Rural Water Association: www.calruralwater.org
- Rural Community Assistance Corporation: www.rcac.org
- National Rural Water Association: www.nrwa.org
- Association of State Drinking Water Administrators: www.asdwa.org
- American Water Works Association: www.awwa.org

Drinking Water Puzzle Answers: Chloramine; Fluoride; Adsorption; Arsenic; Bromate; Perchlorate